

Claims

1. A fiber optic connector for terminating an optical fiber, the connector comprising:

a housing having opposed first and second ends, the housing receiving the optical fiber at the first end thereof;

an elongated member retainable in the housing, the elongated member including a crimpable portion, the crimpable portion being disposed within the housing,

the crimpable portion having opposed first and second ends and a point between the first and second ends, the crimpable portion being tapered from the point toward one of the first and second ends; and

at least one insert disposable within the crimpable portion of the elongated member.

2. The fiber optic connector of claim 1 wherein the crimpable portion is tapered from the point toward the other of the first and second ends.

3. The fiber optic connector of claim 1 further includes two inserts disposable within the crimpable portion of the elongated member.



4. The fiber optic connector of claim 1 further includes a ferrule disposed within the elongated member and a stub fiber disposed within an aperture in the ferrule.

5. The fiber optic connector of claim 4 wherein the optical fiber has a glass fiber core.

6. The fiber optic connector of claim 5 wherein the stub fiber contacts the glass fiber core in the at least one insert.

7. The fiber optic connector of claim 5 wherein the stub fiber contacts the glass fiber core in the ferrule.

8. A fiber optic connector for terminating an optical fiber, the connector comprising:

a housing having opposed first and second ends, the housing receiving the optical fiber at the first end thereof;

an elongated member retainable in the housing, the elongated member including a crimpable portion, the crimpable portion being disposed within the housing,

the crimpable portion having opposed first and second ends and a point between the first and second ends, the crimpable portion being configured so

that when a crimp die force is applied to the crimpable portion, the force is greater at the first and second ends than at the point; and

at least one insert disposable within the crimpable portion of the elongated member.

9. The fiber optic connector of claim 8 further includes two inserts disposable within the crimpable portion of the elongated member.

10. The fiber optic connector of claim 8 further includes a ferrule disposed within the elongated member and a stub fiber disposed within an aperture in the ferrule.

11. The fiber optic connector of claim 10 wherein the optical fiber has a glass fiber core.

12. The fiber optic connector of claim 11 wherein the stub fiber contacts the glass fiber core in the at least one insert.

13. The fiber optic connector of claim 11 wherein the stub fiber contacts the glass fiber core in the ferrule.

14. A crimpable fiber optic connector for terminating an optical fiber, the connector being crimpable by a crimp tool having opposed crimp dies thereon, the connector comprising:

a housing having opposed first and second ends, the housing receiving the optical fiber at the first end thereof;

an elongated member retainable in the housing, the elongated member including a crimpable portion, the crimpable portion being disposed within the housing; and

at least one insert disposable within the crimpable portion of the elongated member,

wherein at least one of the crimp dies having opposed first and second ends and a point between the first and second ends, the at least one crimp die being tapered from the point toward one of the first and second ends.

15. The crimpable fiber optic connector of claim 14 wherein the other of the crimp dies has opposed first and second ends and a point between the first and second ends, the other of the crimp dies is tapered from the point toward one of the first and second ends.

16. The fiber optic connector of claim 14 further includes two inserts disposable within the crimpable portion of the elongated member.

17. The fiber optic connector of claim 14 further includes a ferrule disposed within the elongated member and a stub fiber disposed within an aperture in the ferrule.

18. The fiber optic connector of claim 17 wherein the optical fiber has a glass fiber core.

19. The fiber optic connector of claim 18 wherein the stub fiber contacts the glass fiber core in the at least one insert.

20. The fiber optic connector of claim 18 wherein the stub fiber contacts the glass fiber core in the ferrule.

21. A method for assembling a fiber optic connector, the method comprising the steps of:

providing a housing having opposed first and second ends;

providing an elongated member including a ferrule holding portion at one end thereof and a crimpable portion distinct from the ferrule holding portion, the crimpable portion having opposed first and second ends and a point between the first and second ends, the crimpable portion being tapered from the point toward one of the first and second ends;

providing at least one insert;

providing a ferrule having a front end and a rear end, the ferrule including an aperture extending from the front end to the rear end;

providing a stub fiber having a width dimension sufficiently small to permit the stub fiber to be inserted into the ferrule aperture;

inserting the stub fiber into the ferrule aperture;

affixing the stub fiber within the ferrule aperture;

inserting the at least one insert into the crimpable portion of the elongated member;

inserting the ferrule at least partially into the ferrule holding portion of the elongated member;

affixing the ferrule at least partially within the ferrule holding portion of the elongated member so as to retain the insert within the crimpable portion of the elongated member;

crimping the crimpable portion of the elongated member;

inserting the elongated member into the housing; and

affixing the elongated member within the housing.

22. The method of claim 21 wherein the crimpable portion is tapered from the point toward the other of the first and second ends.

23. A method for assembling a fiber optic connector, the method comprising the steps of:

providing a housing having opposed first and second ends;

providing an elongated member including a ferrule holding portion at one end thereof and a crimpable portion distinct from the ferrule holding portion, the crimpable portion having opposed first and second ends and a point between the first and second ends, the crimpable portion being tapered from the point toward one of the first and second ends;

providing at least one insert;

providing a ferrule having a front end and a rear end, the ferrule including an aperture extending from the front end to the rear end;

providing a stub fiber having a width dimension sufficiently small to permit the stub fiber to be inserted into the ferrule aperture;

inserting the stub fiber into the ferrule aperture;

affixing the stub fiber within the ferrule aperture;

inserting the at least one insert into the crimpable portion of the elongated member;

inserting the ferrule at least partially into the ferrule holding portion of the elongated member;

affixing the ferrule at least partially within the ferrule holding portion of the elongated member so as to retain the insert within the crimpable portion of the elongated member;

crimping the crimpable portion of the elongated member while simultaneously crimping a buffer crimp portion;

inserting the elongated member into the housing; and
affixing the elongated member within the housing.

24. A method for terminating a multiple layered field optical fiber having a glass fiber core with an optical fiber connector including a housing having opposed first and second ends, an elongated member retainable in the housing and extending substantially from one of the opposed ends to the other of the opposed ends, the elongated member including a ferrule holding portion proximate the second end of the housing and a crimpable portion distinct from the ferrule holding portion, a ferrule disposable within the ferrule holding portion of the elongated member, the ferrule including an aperture running therethrough, at least one insert disposed within the crimpable portion of the elongated member; and a stub fiber having opposing ends, the stub fiber being disposed within the aperture of the ferrule, the method comprising the steps of:

providing a crimp tool having opposed crimp dies thereon, wherein at least one of the crimp dies having opposed first and second ends and a point between the first and second ends, the at least one crimp die being tapered from the point toward one of the first and second ends;

stripping at least one layer from the field optical fiber to expose the glass fiber core;

placing the connector on at least one of the crimp dies of the crimp tool;

lightly closing the opposable crimp dies of the crimp tool over the connector to retain the connector on the crimp tool;

inserting the glass fiber core through the end of the elongated member closer the first end of the housing, into the aperture of the ferrule and into contact with the stub fiber; and

forcefully closing the opposable crimp dies of the crimp tool over the connector so as to crimp the crimpable portion of the elongated member and thereby retain the field fiber in contact with the stub fiber within the aperture of the ferrule.

25. The method of claim 24 wherein the other of the crimp dies has opposed first and second ends and a point between the first and second ends, the other of the crimp dies is tapered from the point toward one of the first and second ends.